

(12) INTERNATIONAL APPLICATION PUBLISHED UNDER THE PATENT COOPERATION TREATY (PCT)

(19) World Intellectual Property
Organization
International Bureau



(43) International Publication Date
4 August 2005 (04.08.2005)

PCT

(10) International Publication Number
WO 2005/070534 A1

- (51) International Patent Classification⁷: B01J 20/08, 20/04, B01D 15/00, C02F 1/28
- (74) Agents: NAIR, R., R. et al.; DePenning & DePenning, 31 South Bank Road, Chennai 600 028, Tamil Nadu (IN).
- (21) International Application Number: PCT/IN2005/000022
- (22) International Filing Date: 19 January 2005 (19.01.2005)
- (25) Filing Language: English
- (26) Publication Language: English
- (30) Priority Data: 51/CHE/2004 22 January 2004 (22.01.2004) IN
- (71) Applicants (for all designated States except US): INDIAN INSTITUTE OF TECHNOLOGY [IN/IN]; IIT P.O., Chennai 600 036, Tamil Nadu (IN). AQUAMALL WATER SOLUTIONS LIMITED [IN/IN]; No. 7-2-1851/1, Fatehbaugh, Sanathnagar, Hyderabad 500 018, Andhra Pradesh (IN).
- (72) Inventors; and
- (75) Inventors/Applicants (for US only): SREEKUMARAN NAIR, Appukuttan, Nair [IN/IN]; Department of Chemistry and Sophisticated Analytical Instrument Facility, Indian Institute of Technology, Chennai 600 036 (IN). PRADEEP, Thalappil [IN/IN]; Department of Chemistry and Sophisticated Analytical Instrument Facility, Indian Institute of Technology, Chennai 600 036 (IN).
- (81) Designated States (unless otherwise indicated, for every kind of national protection available): AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BW, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, EG, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NA, NI, NO, NZ, OM, PG, PH, PL, PT, RO, RU, SC, SD, SE, SG, SK, SL, SY, TJ, TM, TN, TR, TT, TZ, UA, UG, US, UZ, VC, VN, YU, ZA, ZM, ZW.
- (84) Designated States (unless otherwise indicated, for every kind of regional protection available): ARIPO (BW, GH, GM, KE, LS, MW, MZ, NA, SD, SL, SZ, TZ, UG, ZM, ZW), Eurasian (AM, AZ, BY, KG, KZ, MD, RU, TJ, TM), European (AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI, FR, GB, GR, HU, IE, IS, IT, LT, LU, MC, NL, PL, PT, RO, SE, SI, SK, TR), OAPI (BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG).
- Published:
— with international search report
- For two-letter codes and other abbreviations, refer to the "Guidance Notes on Codes and Abbreviations" appearing at the beginning of each regular issue of the PCT Gazette.

(54) Title: ADSORBENT COMPOSITION, A DEVICE AND A METHOD FOR DECONTAMINATING WATER CONTAINING PESTICIDES

(57) Abstract: This invention relates to novel adsorbent compositions for adsorbing pesticides like chlorpyrifos and malathion. This composition consists of nanoparticles of gold/silver supported on activated alumina or magnesia in powder or other forms. This invention includes a device and a method for decontaminating water contaminated with pesticides. This device consists of a housing provided with an inlet and an outlet. The housing is loaded with nanoparticles of gold/silver supported on activated magnesia. Contaminated water is allowed to pass through the housing while pesticides are adsorbed by the composition. Decontaminated water flows out through the outlet.

WO 2005/070534 A1

BEST AVAILABLE COPY